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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,826	06/13/2005	Jean-Michel Franconi	19320-002US1	5183
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EXAMINER LAMPRECHT, JOEL				
ART UNIT 3737		PAPER NUMBER		
NOTIFICATION DATE 04/27/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

### Office Action Summary

**Application No.**

10/538,826

**Applicant(s)**

FRANCONI ET AL.

**Examiner**

JOEL M. LAMPRECHT

**Art Unit**

3737

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 1/22/09.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 7-9, 11 and 16-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9, 11, 16-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5, 7-9, 11, 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meade et al (US 6,770,261 B2) in view of Driehuys et al (US 2003/00640023 A1). Meade et al disclose methods for acquiring electromagnetic signals from the body placed in a system with means for generating a magnetic induction, means for transmitting RF wave pulse sequences (Col 40-46), means for detecting electromagnetic signals from a body part by injecting a contrast agent capable of passing through a zone of the body and causing a chemical shift of a RF of water hydrogen protons (Col 33 Line 1 – Col 36 Line 55, Col 40-46), exciting the body with RF

wave pulse sequences in a range of frequencies (Col 40-46), and detecting electromagnetic signals from the body (Col 40-46), corresponding to the MR signals of the protons of the observed zone having undergone chemical shift. Meade et al disclose the contrast agent as a lanthanide, chosen from dysprosium, praseodymium and europium (Col 8 Line 40-60), with a cage incorporating DOTA or DTPA (Col 8 Line 60 – Col 9 Line 25), forming an image, using at least two series of wave pulses having frequency adjusted to the magnetic induction (Example 5), including a target molecule for affixing to a target as part of an observed zone (Example 3) including a group of cells expressing a gene, deducing RF frequency of the protons of the observed zone after a chemical shift (Example 3-5); finally, the observed zone could be a tumor zone or a group of blood vessels (Col 35 Line 64 – Col 37 Line 60), where the indication or diagnosis for that region is dependent on the RF of the protons of the observed zone having undergone a chemical shift such as a vascularization index (Col 35 Line 64 – Col 37 Line 60). Meade et al also disclose a contrast agent for injection into the body at either the blood-brain barrier or other tissue location providing an element for causing a chemical shift of the resonance frequency of water hydrogen protons (Col 7 Line 38- Col 8 Line 60, Col 40-46), their agent being a lanthanide selected from dysprosium, praseodymium, and europium (Claim 4) and comprising a cage that incorporated DOTA or DTPA (Col 3 Line 1-55).

Meade et al discloses all that is listed above, but fails to disclose determination of chemically shifted resonance frequencies and selective excitation of the body so as to acquire magnetic resonance signals of selective portions of the body which have

undergone chemical shift. Attention is then directed to the secondary reference by Driehuys et al which discloses the use of contrast products into the body and selective excitations at multiple frequencies to acquire image data of regions which have undergone chemical shifts (0049-0053, 0087-0089) based on the concentration of contrast agent which provides the chemical shift (0081, 0087-0089, 0093-0095) as well as a number of other frequencies to determine function or acquire data across a broad range of selected frequencies (0019, 0083-0084, 0086, 0091, 112, and 0120). It would have been obvious to one of ordinary skill in the art to have utilized the frequency shift calculations and slice/volume frequency-selective pulses with the non-selective system of Meade et al for the purpose of analyzing only specific portions of the anatomy which have undergone chemical shift.

### ***Response to Arguments***

Applicant's arguments filed 1/22/09 have been fully considered but they are not persuasive. Regarding the argument that Driehuys does not disclose the detection of a compound naturally present in the body, Examiner agrees, but that is not the teachings being relied upon to teach the selective excitation at multiple frequencies adjusted by some variable. Driehuys is relied upon to teach that multiple MR applications can be used in conjunction with contrast product in provide data across a broad range of frequencies, not just Gd-based contrast products modifying hydrogen proton frequencies. Meade clearly teaches the use of Gd-based contrast products which in turn cause this shift. Driehuys cites in [0104] that Xe spectroscopic mappings can be carried out to compare with Gd-Based values, and as such, the reliance upon this

reference is appropriate and would have been logical for one of ordinary skill in the art at the time of the invention.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joel M. Lamprecht whose telephone number is (571) 272-3250. The examiner can normally be reached on Monday-Friday 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571)272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JML

/BRIAN CASLER/

Supervisory Patent Examiner, Art Unit 3737